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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/609,236	06/26/2003	Venkat Selvamanickam	SPP 18.809	7733
26304	7590	03/17/2005	EXAMINER	
KATTEN MUCHIN ZAVIS ROSENMAN			KACKAR, RAM N	
575 MADISON AVENUE			ART UNIT	
NEW YORK, NY 10022-2585			PAPER NUMBER	
			1763	
DATE MAILED: 03/17/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/609,236

Applicant(s)

SELVAMANICKAM ET AL.

Examiner

Ram N Kackar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 12-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/5/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of claims 1-11 and withdrawal of non-elected claims 12-24 in Paper dated 1/28/2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Double Patenting***

2. Claims 1-11 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 of copending Application No. 10/609250. Although the conflicting claims are not identical, they are not patentably distinct from each other because limitations of these claims are all disclosed in this copending application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In this instance the position means is recited as being coated with the material being deposited. The material to be deposited could however change since the apparatus could be used

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for deposition of many materials. Therefore the material of the coating on the positioning means becomes indefinite. (*Reference to an object that is variable may render a claim indefinite* MPEP 2173.05 (b))

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Vaidya et al (US 5076203).

Vaidya et al disclose a deposition chamber for vacuum deposition (Col 1 lines 8-11), gas inlet (Fig 1-17, Fig 6-30), source of deposition material (Fig 6-27), means of delivering the deposition material (electron –beam heater Col 3 line 35), means of translating a substrate (Fig 6-22), means of positioning the substrate so that deposition material impinges on the substrate (23) whereas the substrate positioning means contains internal liquid coolant channels (23a and 23b) and internal gaseous coolant delivery channels (Fig 6-30, Fig 7-10 and Col 6 lines 5-68 ).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 7-11 are rejected under 35 U.S.C. 102(b) as being unpatentable over Vaidya et al (US 5076203).

As discussed above Vaidya et al disclose the substrate positioning means contains internal liquid coolant channels (23a and 23b) and internal gaseous coolant delivery channels in three different ways. First being from the side through injecting through holes (as in Fig 6-30 and Fig 2-16a) and the other two being from behind the support either through porous fixed support (Fig 7-10 and Col 6 lines 5-20) or through an enclosed cavity (Fig 7-10 and Col 6 lines 44-68).

Furthermore Vaidya et al teach that these features could be combined (Col 6 lines 44-68) and teach that the injection holes could be 1.5 mm diameter at 15 mm pitch (Col 4 lines 3-9).

Since the hole diameter and spacing determine the amount of gas and its distribution behind the substrate which affects amount and uniformity of cooling it would have been obvious for one of ordinary skill in the art at the time of invention to replace the porous outlets in the support by spaced holes to distribute sufficient gas behind the tape substrate for optimum heat transfer and reduced friction.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vaidya et al (US 5076203) in view of Lijima et al (2001/0006042).

As discussed above Vaidya et al disclose a deposition chamber for vacuum deposition and means of delivering the deposition material as (electron-beam heater Col 3 line 35).

Vaidya et al however fail to disclose other means of delivery conventionally used for physical vapor deposition on tape substrates like ion beam sputtering.

Lijima et al disclose deposition using ion beam sputtering of tape substrates (Fig 3).

Therefore it would have been obvious for one of ordinary skill in the art at the time of invention to use ion beam as an alternative means of delivery since ion beam sputtering is conventional and is used for deposition of superconducting material.

9. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaidya et al (US 5076203) in view of Cavalca et al (20010033960).

As discussed above Vaidya et al disclose a deposition chamber for vacuum deposition and means of delivering the deposition material as (electron-beam heater Col 3 line 35).

Vaidya et al however fail to disclose other means of delivery conventionally used for physical vapor deposition on tape substrates like ion beam and magnetron sputtering.

Cavalca et al disclose vacuum deposition methods and teach that physical vapor deposition, ion beam sputtering and magnetron sputtering are for good control of uniformity, thickness and contamination free deposition of large surfaces in a reel to reel web type of substrates where coating on large surfaces is required (Paragraph 156).

Therefore it would have been obvious for one of ordinary skill in the art at the time of invention to have used ion beam or magnetron sputtering as an alternative means of delivery since these techniques are typical and convention for coating on large surfaces with advantage.

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vaidya et al (US 5076203) in view of AmRheim et al (US 6825051).

Vaidya et al disclose a deposition chamber for vacuum deposition (Col 1 lines 8-11), gas inlet (Fig 1-17, Fig 6-30), source of deposition material (Fig 6-27), means of delivering the deposition material (electron-beam heater Col 3 line 35), means of translating a substrate (Fig 6-22), means of positioning the substrate so that deposition material impinges on the substrate (23)

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whereas the substrate positioning means contains internal liquid coolant channels (23a and 23b) and internal gaseous coolant delivery channels (Fig 6-30, Fig 7-10 and Col 6 lines 5-68 ).

Vaidya et al however fail to disclose the type of coating on the substrate positioning means.

AmRheim et al disclose a coating of silicon nitride on the components of a Silicon nitride deposition chamber for uniform thermal behavior (Col 1 lines 34-38).

Therefore it would have been obvious for one of ordinary skill in the art at the time of invention to use coating of same material as the deposition material for uniform thermal behavior.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ram N Kackar whose telephone number is 571 272 1436. The examiner can normally be reached on M-F 8:00 A.M to 5:P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571 272 1435. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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